Service Manual

Fax System V

First Edition
Date: 07-04-2011
5JTSM060

Triumph-Adler

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CAUTION

RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

It may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for proper disposal.

ATTENTION

IL Y A UN RISQUE D'EXPLOSION SI LA BATTERIE EST REMPLACEE PAR UN MODELE DE TYPE INCORRECT. METTRE AU REBUT LES BATTERIES UTILISEES SELON LES INSTRUCTIONS DONNEES.

Il peut être illégal de jeter les batteries dans des eaux d'égout municipales. Vérifiez avec les fonctionnaires municipaux de votre région pour les détails concernant des déchets solides et une mise au rebut appropriée.

Revision history

Revision	Date	Replaced pages	Remarks

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Safety precautions

This booklet provides safety warnings and precautions for our service personnel to ensure the safety of their customers, their machines as well as themselves during maintenance activities. Service personnel are advised to read this booklet carefully to familiarize themselves with the warnings and precautions described here before engaging in maintenance activities.

Safety warnings and precautions

Various symbols are used to protect our service personnel and customers from physical danger and to prevent damage to their property. These symbols are described below:

⚠**DANGER:** High risk of serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**WARNING:** Serious bodily injury or death may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

⚠**CAUTION:** Bodily injury or damage to property may result from insufficient attention to or incorrect compliance with warning messages using this symbol.

Symbols

The triangle (△) symbol indicates a warning including danger and caution. The specific point of attention is shown inside the symbol.

 General warning.

 Warning of risk of electric shock.

 Warning of high temperature.

⃠ indicates a prohibited action. The specific prohibition is shown inside the symbol.

 General prohibited action.

 Disassembly prohibited.

● indicates that action is required. The specific action required is shown inside the symbol.

 General action required.

 Remove the power plug from the wall outlet.

 Always ground the copier.

1. Installation Precautions

⚠ WARNING

- Do not use a power supply with a voltage other than that specified. Avoid multiple connections to one outlet: they may cause fire or electric shock. When using an extension cable, always check that it is adequate for the rated current. .....

- Connect the ground wire to a suitable grounding point. Not grounding the copier may cause fire or electric shock. Connecting the earth wire to an object not approved for the purpose may cause explosion or electric shock. Never connect the ground cable to any of the following: gas pipes, lightning rods, ground cables for telephone lines and water pipes or faucets not approved by the proper authorities. .....

⚠ CAUTION:

- Do not place the copier on an infirm or angled surface: the copier may tip over, causing injury. .....

- Do not install the copier in a humid or dusty place. This may cause fire or electric shock. .....

- Do not install the copier near a radiator, heater, other heat source or near flammable material. This may cause fire. .....

- Allow sufficient space around the copier to allow the ventilation grills to keep the machine as cool as possible. Insufficient ventilation may cause heat buildup and poor copying performance. .....

- Always handle the machine by the correct locations when moving it. .....

- Always use anti-toppling and locking devices on copiers so equipped. Failure to do this may cause the copier to move unexpectedly or topple, leading to injury. .....

- Avoid inhaling toner or developer excessively. Protect the eyes. If toner or developer is accidentally ingested, drink a lot of water to dilute it in the stomach and obtain medical attention immediately. If it gets into the eyes, rinse immediately with copious amounts of water and obtain medical attention. .....

- Advice customers that they must always follow the safety warnings and precautions in the copier's instruction handbook. .....

2. Precautions for Maintenance

⚠WARNING

- Always remove the power plug from the wall outlet before starting machine disassembly. 
- Always follow the procedures for maintenance described in the service manual and other related brochures. 
- Under no circumstances attempt to bypass or disable safety features including safety mechanisms and protective circuits. 
- Always use parts having the correct specifications. 
- Always use the thermostat or thermal fuse specified in the service manual or other related brochure when replacing them. Using a piece of wire, for example, could lead to fire or other serious accident. 
- When the service manual or other serious brochure specifies a distance or gap for installation of a part, always use the correct scale and measure carefully. 
- Always check that the copier is correctly connected to an outlet with a ground connection. 
- Check that the power cable covering is free of damage. Check that the power plug is dust-free. If it is dirty, clean it to remove the risk of fire or electric shock. 
- Never attempt to disassemble the optical unit in machines using lasers. Leaking laser light may damage eyesight. 
- Handle the charger sections with care. They are charged to high potentials and may cause electric shock if handled improperly. 

⚠CAUTION

- Wear safe clothing. If wearing loose clothing or accessories such as ties, make sure they are safely secured so they will not be caught in rotating sections. 
- Use utmost caution when working on a powered machine. Keep away from chains and belts. 
- Handle the fixing section with care to avoid burns as it can be extremely hot. 
- Check that the fixing unit thermistor, heat and press rollers are clean. Dirt on them can cause abnormally high temperatures. 

- Do not remove the ozone filter, if any, from the copier except for routine replacement. ..... 
- Do not pull on the AC power cord or connector wires on high-voltage components when removing them; always hold the plug itself. ..... 
- Do not route the power cable where it may be stood on or trapped. If necessary, protect it with a cable cover or other appropriate item. ..... 
- Treat the ends of the wire carefully when installing a new charger wire to avoid electric leaks. ..... 
- Remove toner completely from electronic components. ..... 
- Run wire harnesses carefully so that wires will not be trapped or damaged. ..... 
- After maintenance, always check that all the parts, screws, connectors and wires that were removed, have been refitted correctly. Special attention should be paid to any forgotten connector, trapped wire and missing screws. ..... 
- Check that all the caution labels that should be present on the machine according to the instruction handbook are clean and not peeling. Replace with new ones if necessary. ..... 
- Handle greases and solvents with care by following the instructions below: ..... 
  · Use only a small amount of solvent at a time, being careful not to spill. Wipe spills off completely.
  · Ventilate the room well while using grease or solvents.
  · Allow applied solvents to evaporate completely before refitting the covers or turning the power switch on.
  · Always wash hands afterwards.
- Never dispose of toner or toner bottles in fire. Toner may cause sparks when exposed directly to fire in a furnace, etc. ..... 
- Should smoke be seen coming from the copier, remove the power plug from the wall outlet immediately. ..... 

3. Miscellaneous

⚠WARNING

- Never attempt to heat the drum or expose it to any organic solvents such as alcohol, other than the specified refiner; it may generate toxic gas. ..... 

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CONTENTS

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1-1-1 Specifications

Item	Specifications
Compatibility	G3
Communication line	Subscriber telephone line
Transmission time	3 s or less (33600 bps, JBIG, ITU-T A4 #1 chart)
Transmission speed	33600/31200/28800/26400/24000/21600/19200/16800/14400/12000/9600/7200/4800/2400/1200/300 bps
Coding scheme	JBIG/MMR/MR/MH
Error correction	ECM
Original size	Max. width: 11"/297 mm Max. length: 63"/1,600 mm
Automatic document feed	Max. 100 sheets(with optional DP)
Scanner resolution	Horizontal × Vertical 200 × 100 dpi Normal (8 dot/mm × 3.85 line/mm) 200 × 200 dpi Fine (8 dot/mm × 7.7 line/mm) 200 × 400 dpi Super fine (8 dot/mm × 15.4 line/mm) 400 × 400 dpi Ultra fine (16 dot/mm × 15.4 line/mm) 600 × 600 dpi
Printing resolution	600 × 600 dpi
Gradations	256 shades (Error diffusion)
One-Touch key	1000 keys
Multi-Station transmission	Max. 500 destinations
Substitute memory reception	700 sheets or more (when using ITU-T A4 #1 chart)
Image memory capacity	12 MB (standard) (for incoming faxed originals)
Report output	Sent result report, FAX RX result report, Report for job canceled before sending, Activity report, Status page
Option	Dual FAX, expanded memory and internet FAX kit

NOTE: These specifications are subject to change without notice.

Reception functions	Manual reception Automatic reception Fax/telephone auto selection TAD reception D.R.D. reception*1 Remote switching
Transmission functions	Chain dial Redial (manual/automatic)
Communication functions	Direct transmission Memory transmission Bulk fax output
Additional communication functions	Broadcast transmission (up to 500 numbers) Polling communication Encrypted communication Password check communication Memory forwarding Standby transmission Delayed transmission Interrupt send ECM Sub address transmission Sub address confidential delivery Sub address bulletin board communication
Supplementary communication functions	Manual send Address book Canceling communication Line monitor Transmission destination display Tone transmission Memory back-up Printing out from FAX box (subaddress-based confidential reception) Communication result display Batch transmission TTI transmission Bulletin board communication function Rotation transmission Duplex transmission*2 Initial communication speed setting Line type setting Zooming communication Mixed sized originals Original orientation (Border erase book)

Supplementary reception functions	Memory reception 2 in 1 reception Auto reduce reception Rotation reception Duplex reception Recording paper media type setting Reception date and time recording Receive-only port*3 Reduced size reception Communication restriction (up to 50) Document box
Reports	Send result report Receipt result report Activity report Status page
Network FAX	Addition of a cover page E-mail reporting of the transmission result Terminal service File name
Others	Cancelling and sending delayed transmissions (queued) Remote diagnosis Smoothing reception Fax priority printout Common address for the machine and FAX Internet faxing*4

*1: For 120 V specifications only.
*2: Available only when optional document processor of the machine is installed.
*3: When optional dual FAX is installed.
*4: When optional internet Fax kit is installed.

1-1-2 Parts names

(1) Machine

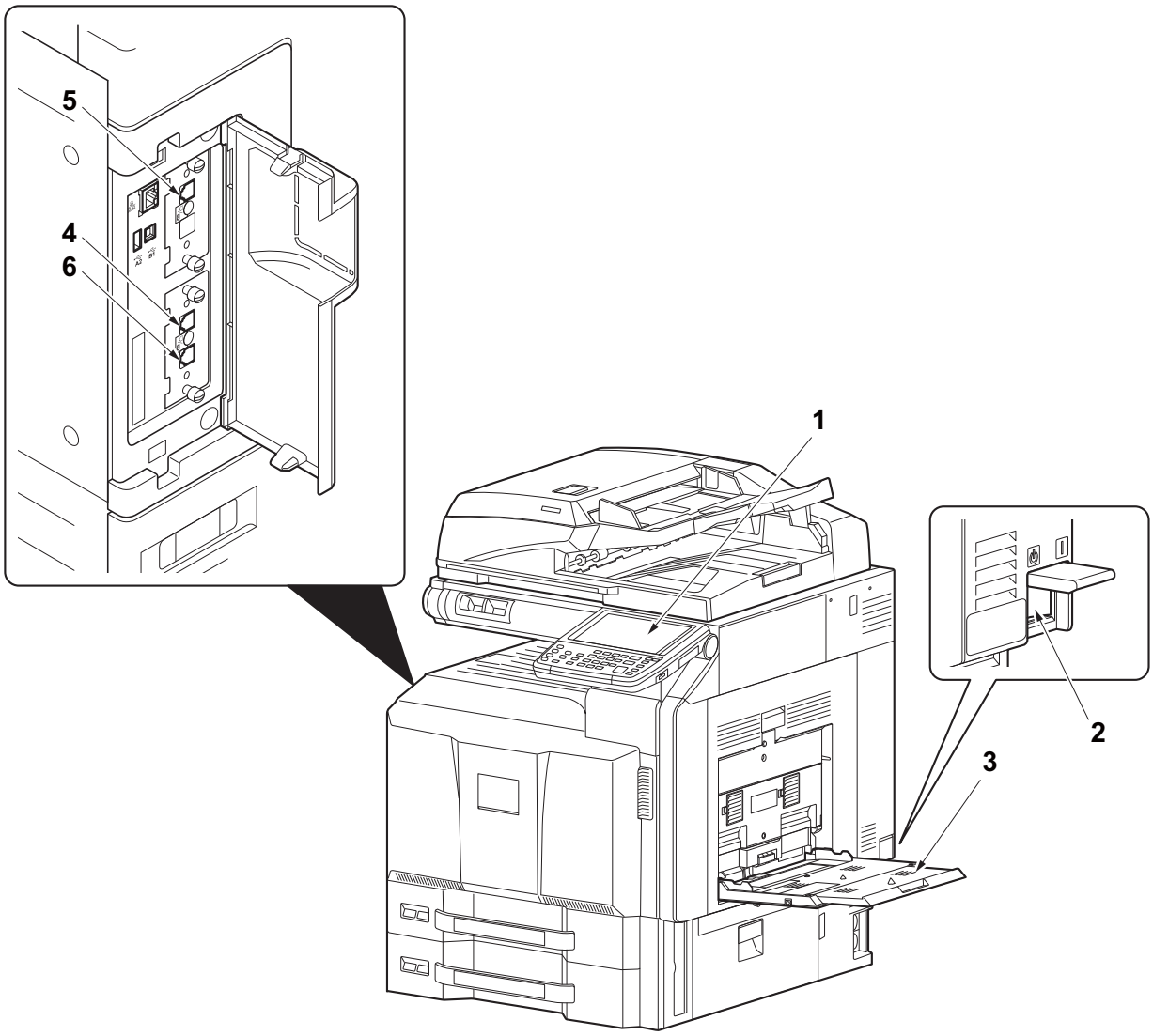
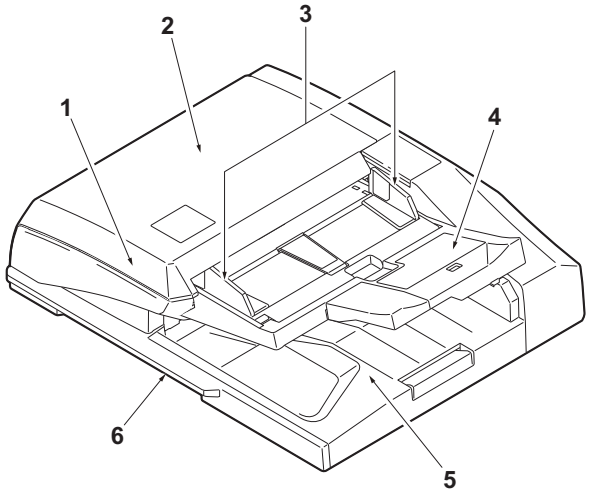


Figure 1-1-1

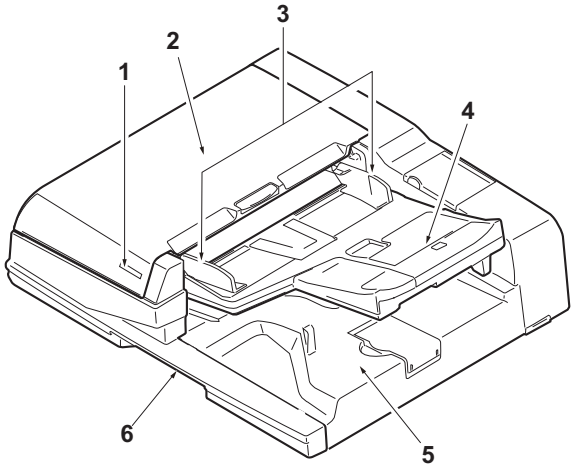
1. Operation panel
2. Main power switch
3. MP tray
4. Line connection connector (port 1)
5. Line connection connector (port 2)
6. TEL connection connector (port 1)

Note that you cannot automatically receive FAX when turning the main power switch off.
To turn the power off, press the Power key on the operation panel.

(2) Document processor



Document processor
(dual scan DP)



Document processor
(reversed DP)

Figure 1-1-2

1. Original placement indicator
2. DP top cover
3. Original width guides
4. Original tray
5. Original eject table
6. Opening handle

(3) Operation panel

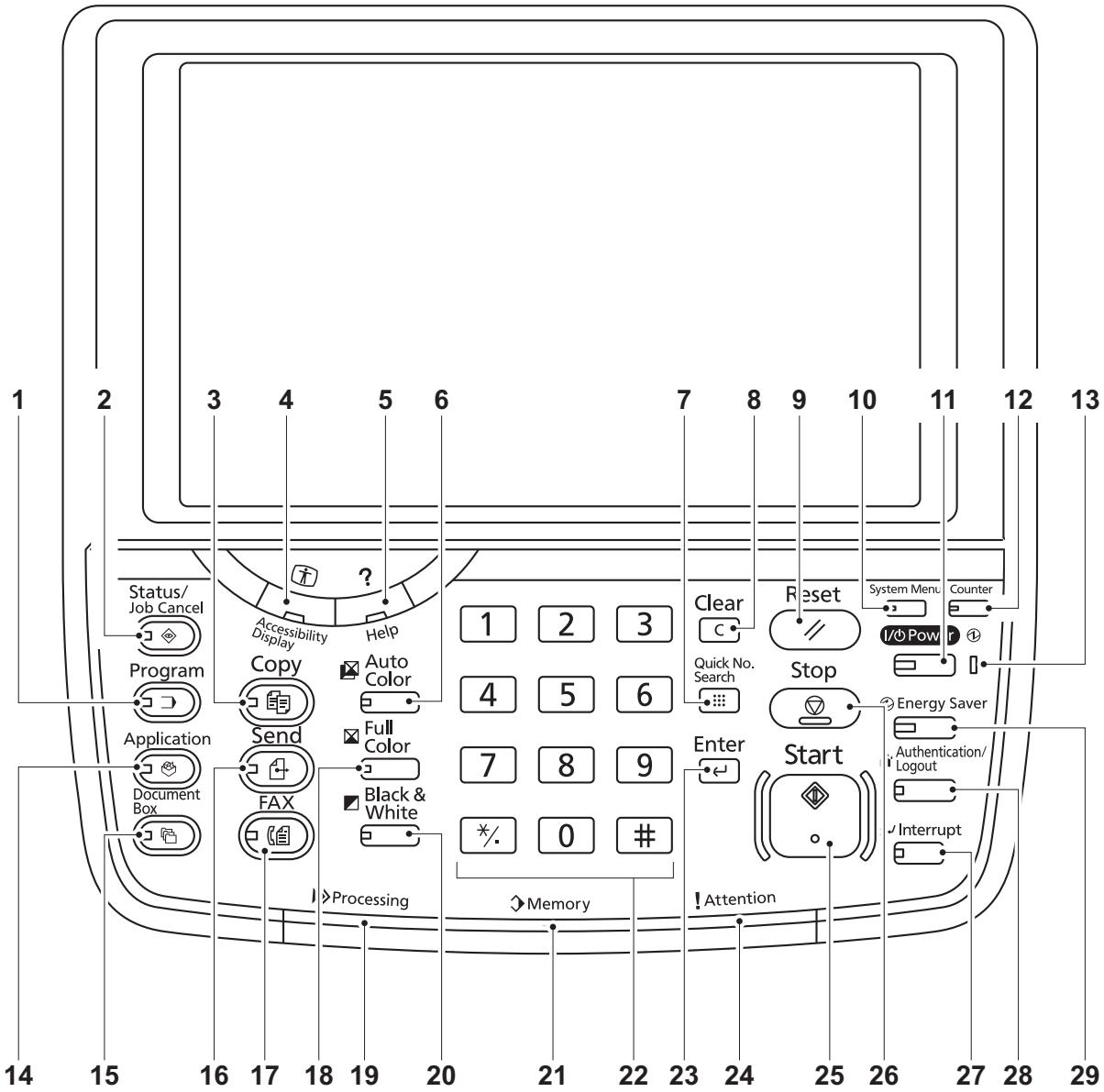


Figure 1-1-3

1. Program key
2. Status/Job cancel key
3. Copy key
4. Accessibility display key
5. Help key
6. Auto color key
7. Quick no. search key
8. Clear key
9. Reset key
10. System menu key
11. Power key
12. Counter key
13. Main power indicator
14. Application key
15. Document box key
16. Send key
17. FAX key*
18. Full color key
19. Processing indicator
20. Black and White key
21. Memory indicator
22. Numeric keys
23. Enter key
24. Attention indicator
25. Start key
26. Stop key
27. Interrupt key
28. Authentication/Logout key
29. Energy saver key

*: Option

1-2-1 Installation environment

Installation location (Be based on the machine establishment place.)
Avoid direct sunlight or bright lighting. Ensure that the photoconductor will not be exposed to direct sunlight or other strong light when removing paper jams.
Avoid locations subject to high temperature and high humidity or low temperature and low humidity; an abrupt change in the environmental temperature; and cool or hot, direct air.
Avoid places subject to dust and vibrations.
Choose a surface capable of supporting the weight of the machine.
Place the machine on a level surface (maximum allowance inclination: 1°).
Avoid air-borne substances that may adversely affect the machine or degrade the photoconductor, such as mercury, acidic of alkaline vapors, inorganic gasses, NOx, SOx gases and chlorine-based organic solvents.
Select a well-ventilated location.

1-2-2 Unpacking

(1) Unpacking

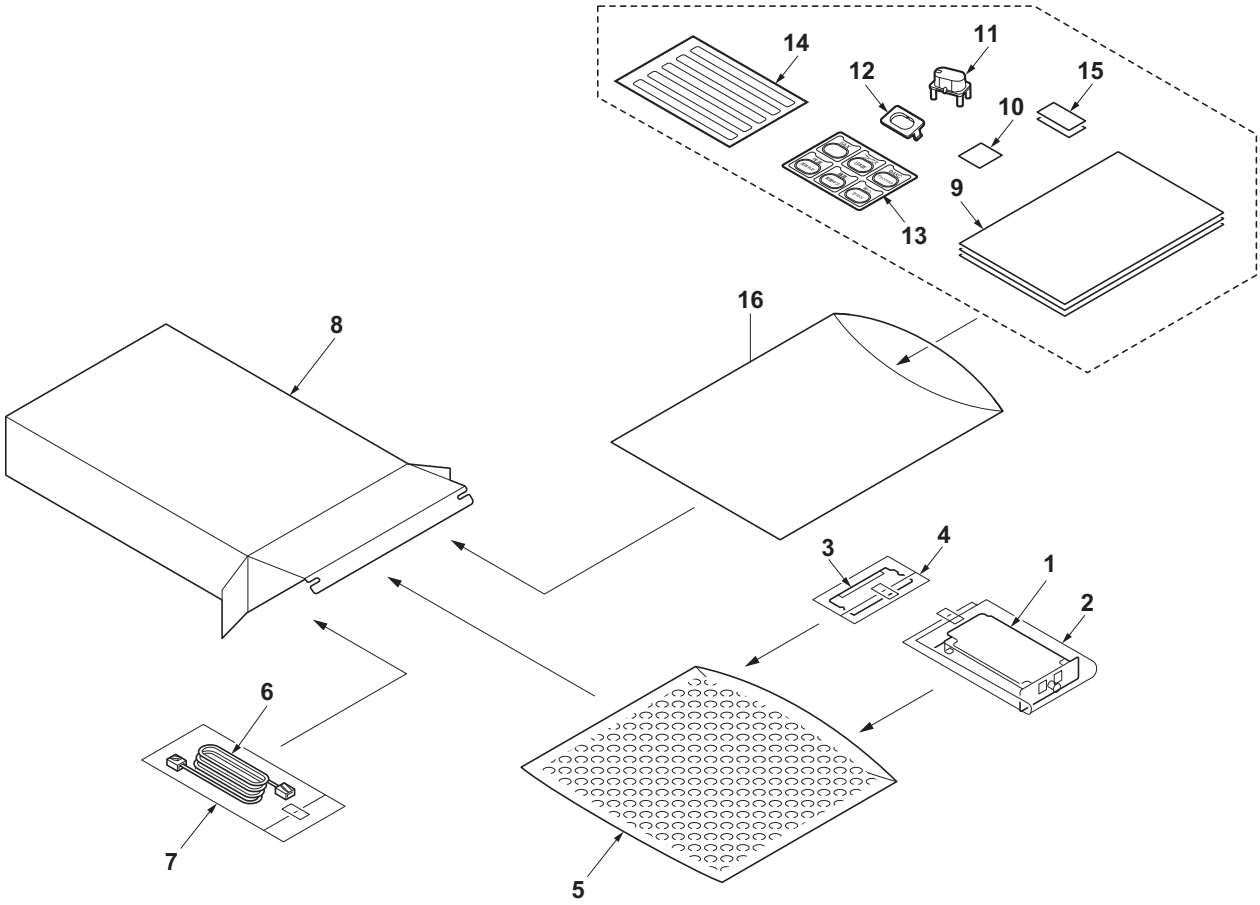


Figure 1-2-1

1. Fax assembly
2. Plastic bag
3. Memory DIMM
4. Plastic bag
5. Air-padded bag
6. Modular cord*1
7. Plastic bag
8. Outer case
9. Installation guide
10. Terminal seal
11. FAX key
12. FAX key cover
13. FAX operation section label
14. Alphabet label
15. Approval label*2
16. Plastic bag

*1: 120 V and Australian models only.
*2: Australian/New Zealand models only.

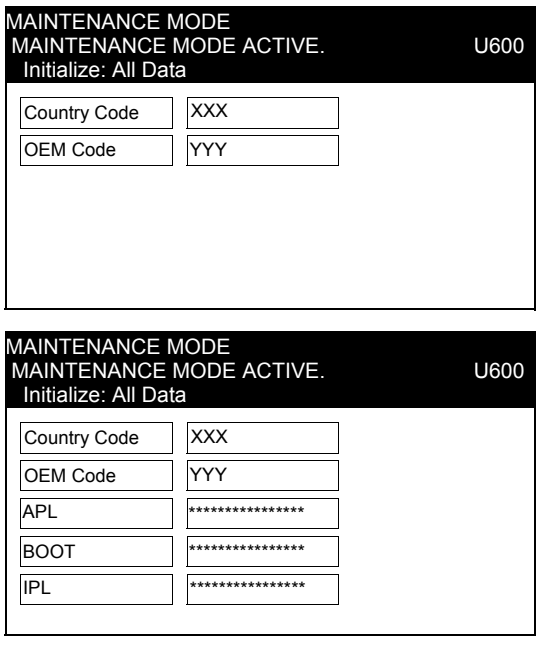
Caution: See the Installation Guide for installation.

(2) Initialization procedure after installing the facsimile system

1. Insert the machine power plug to the wall outlet and turn the main power switch on.
2. Enter 10871087 using the numeric keys. The machine enters maintenance mode.
3. Only when the optional dual FAX is installed:
   When both the FAX system and the dual FAX are installed: Run maintenance mode U698 using the cursor up or down key, or numeric keys, press [PORT SELECT], select [ALL] and press the start key.
   If the FAX system is already in use and the dual FAX is additionally installed: Run maintenance mode U698, press [PORT SELECT], select [P2] and press the start key.
4. Run maintenance item U600 using the cursor up/down keys or numeric keys.
5. Press [Execute] and then press the start key.
6. Select [Country Code] and enter a destination code using the numeric keys (refer to the destination code list). Press the start key.

Code	Destination	Code	Destination	Code	Destination
000	Japan	156	Singapore	253	Sweden
009	Australia	159	South Africa		France
038	China	169	Thailand		Austria
080	Hong Kong	181	U.S.A.		Switzerland
084	Indonesia	242	South America		Belgium
088	Israel	243	Saudi Arabia		Denmark
097	Korea	253	CTR21 (European nations)		Finland
108	Malaysia		Italy		Portugal
126	New Zealand		Germany		Ireland
136	Peru		Spain		Norway
137	Philippines		U.K.	254	Taiwan
152	Middle East		Netherlands		

7. Select [OEM Code], enter the OEM code (000) and then press the start key.
8. After initialization, the entered destination, OEM codes and ROM version are displayed. A ROM version displays three kinds, application, boot, and IPL. When the optional dual FAX is installed and U698 set to [ALL], the ROM version for port 1 is primarily displayed.



9. After completing the installation, run the communications test to confirm that the fax system is operative.

Figure 1-2-2

(3) Installing the memory DIMM

Press the Power key on the operation panel to off. Make sure that the Power indicator and the Memory indicator are off
before turning off the main power switch.
Press the power key on the operation panel to off. Make sure that the power indicator and the memory indicator are off before turning off the main power switch. And then unplug the power cable from the wall outlet.

Procedure

1. Remove two screws and remove the cover.

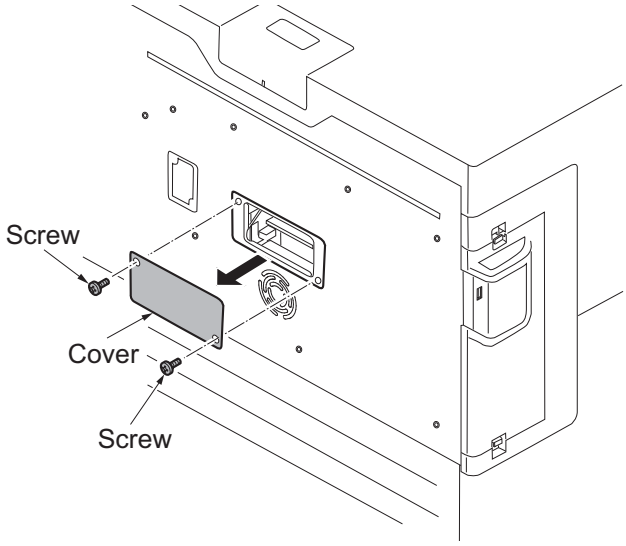


Figure 1-2-3

2. Install the memory DIMM or the optional memory DIMM into the memory slot on the lower level (FLS).
   Install it with the IC side facing down.
   Insert it in the direction of the arrow until it clicks.
3. Refit the cover.

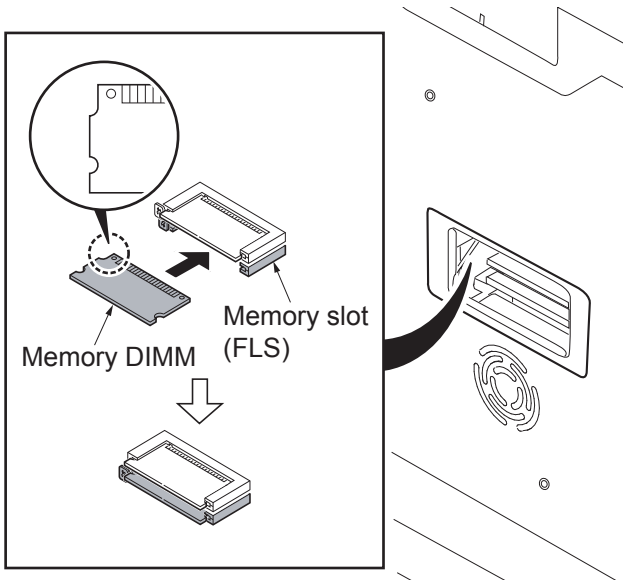
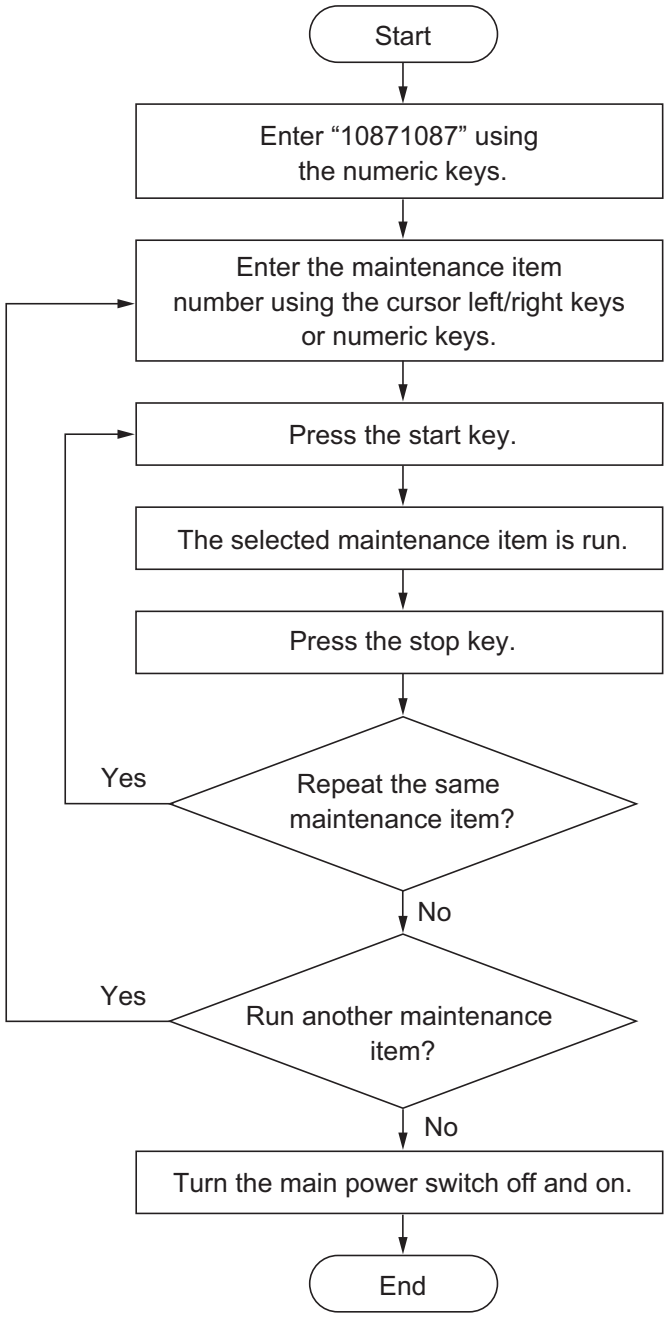


Figure 1-2-4

1-3-1 Maintenance mode

The machine is equipped with a maintenance function which can be used to maintain and service the machine.

(1) Executing a maintenance item



・・・・・ Maintenance mode is entered.

・・・・・ The maintenance item is selected.

・・・・・ Maintenance mode is exited and the system is restarted to initialize it and to reflect the setting changes.

(2) Maintenance modes item list

Section	Item No.	Content of maintenance item	Initial setting
Fax	U600	Initializing all data	-
	U601	Initializing permanent data	-
	U603	Setting user data 1	DTMF
	U604	Setting user data 2	2 (120 V) 1 (220-240 V)
	U605	Clearing data	-
	U610	Setting system 1 Setting the number of lines to be ignored when receiving a fax at 100% magnification Setting the number of lines to be ignored when receiving a fax in the auto reduction mode Setting the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode	 3 0 0
	U611	Setting system 2 Setting the number of adjustment lines for automatic reduction Setting the number of adjustment lines for automatic reduction when A4 paper is set Setting the number of adjustment lines for automatic reduction when letter size paper is set	 7 22 26
	U612	Setting system 3 Selecting if auto reduction in the auxiliary direction is to be performed Setting the automatic printing of the protocol list	 On Off
	U615	Setting system 6	Ledger
	U620	Setting the remote switching mode	One
	U625	Setting the transmission system 1 Setting the auto redialing interval Setting the number of times of auto redialing	 3 (120 V) 2 (220-240 V) 2 (120 V) 3 (220-240 V)
	U630	Setting communication control 1 Setting the communication starting speed Setting the reception speed Setting the waiting period to prevent echo problems at the sender Setting the waiting period to prevent echo problems at the receiver	 14400bps/V17 14400bps 300 75
	U631	Setting communication control 2 Setting ECM transmission Setting ECM reception Setting the frequency of the CED signal	 On On 2100

Section	Item No.	Content of maintenance item	Initial setting
Fax	U632	Setting communication control 3 Setting the DIS signal to 4 bytes Setting the CNG detection times in the fax/telephone auto select mode	 Off 2Time
	U633	Setting communication control 4 Enabling/disabling V.34 communication Setting the number of times of DIS signal reception Setting the number of times of DIS signal reception Setting the reference for RTN signal output	 On On Once 15%
	U634	Setting communication control 5	0
	U640	Setting communication time 1 Setting the one-shot detection time for remote switching Setting the continuous detection time for remote switching	 7 80
	U641	Setting communication time 2 Setting the T0 time-out time Setting the T1 time-out time Setting the T2 time-out time Setting the Ta time-out time Setting the Tb1 time-out time Setting the Tb2 time-out time Setting the Tc time-out time Setting the Td time-out time	 56 36 69 30 20 80 60 9 (120 V) 6 (220-240 V)
	U650	Setting modem 1 Setting the G3 transmission cable equalizer Setting the G3 reception cable equalizer Setting the modem detection level	 0dB 0dB -43dBm
	U651	Setting modem 2 Modem output level DTMF output level (main value) DTMF output level (level difference)	 9 (120 V) 10 (220-240 V) 5 (120 V) 10.5 (220-240 V) 2 (120 V) 2.5 (220-240 V)
	U660	Setting the NCU Setting the connection to PBX/PSTN Setting PSTN dial tone detection Setting busy tone detection Setting for a PBX Setting the loop current detection before dialing	 PSTN On On Loop On
	U670	Outputting lists	-
	U695	FAX function customize	On/Off
	U699	Setting the software switches	-

(3) Contents of the maintenance mode items

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U600</td><td>
Initializing all data

Description
Initializes software switches and all data in the backup data on the FAX control PWB, according to the destination and OEM.
Executes the check of the file system, when abnormality of the file system is detected, initializes the file system, communication past record and register setting contents.
Purpose
To initialize the FAX control PWB.

Method
1. Press the start key.
2. Select [Country Code] and enter a destination code using the numeric keys.
Refer to the destination code list on following for the destination code.
OEM code is no operation necessary.
3. Select [Execute].
4. Press the start key. Data initialization starts. To cancel data initialization, press the stop key.
5. After data initialization, ROM version are displayed.
A ROM version displays three kinds, application, boot, and IPL.

Destination code list
<table>
<tr><th>Code</th><th>Destination</th><th>Code</th><th>Destination</th></tr>
<tr><td>000</td><td>Japan</td><td>253</td><td>CTR21 (European nations)</td></tr>
<tr><td>009</td><td>Australia</td><td></td><td>Italy</td></tr>
<tr><td>038</td><td>China</td><td></td><td>Germany</td></tr>
<tr><td>080</td><td>Hong Kong</td><td></td><td>Spain</td></tr>
<tr><td>084</td><td>Indonesia</td><td></td><td>U.K.</td></tr>
<tr><td>088</td><td>Israel</td><td></td><td>Netherlands</td></tr>
<tr><td>097</td><td>Korea</td><td></td><td>Sweden</td></tr>
<tr><td>108</td><td>Malaysia</td><td></td><td>France</td></tr>
<tr><td>126</td><td>New Zealand</td><td></td><td>Austria</td></tr>
<tr><td>136</td><td>Peru</td><td></td><td>Switzerland</td></tr>
<tr><td>137</td><td>Philippines</td><td></td><td>Belgium</td></tr>
<tr><td>152</td><td>Middle East</td><td></td><td>Denmark</td></tr>
<tr><td>156</td><td>Singapore</td><td></td><td>Finland</td></tr>
<tr><td>159</td><td>South Africa</td><td></td><td>Portugal</td></tr>
<tr><td>169</td><td>Thailand</td><td></td><td>Ireland</td></tr>
<tr><td>181</td><td>U.S.A.</td><td></td><td>Norway</td></tr>
<tr><td>242</td><td>South America</td><td>254</td><td>Taiwan</td></tr>
<tr><td>243</td><td>Saudi Arabia</td><td></td><td></td></tr>
</table>
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U601</td><td>
Initializing permanent data

Description
Initializes software switches on the FAX control PWB according to the destination and OEM.
Purpose
To initialize the FAX control PWB without changing user registration data.

Method
1. Press the start key.
2. Select [Country Code] and enter a destination code using the numeric keys.
Refer to the destination code list on page 1-3-4 for the destination code.
OEM code is no operation necessary.
3. Select [Execute].
4. Press the start key. Data initialization starts. To cancel data initialization, press the back key.
5. After data initialization, ROM version are displayed.
A ROM version displays three kinds, application, boot, and IPL.
</td></tr>
<tr><td>U603</td><td>
Setting user data 1

Description
Makes user settings to enable the use of the machine as a fax.
Purpose
To be executed as required.

Setting
1. Press the start key.
2. Select [Line Type].
3. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>DTMF</td><td>DTMF</td></tr>
<tr><td>10PPS</td><td>10 PPS</td></tr>
<tr><td>20PPS</td><td>20 PPS</td></tr>
</table>
* : Initial setting: DTMF
4. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U604</td><td>
Setting user data 2

Description
Makes user settings to enable the use of the machine as a fax.
Purpose
Use this if the user wishes to adjust the number of rings that occur before the unit switches into fax receiving mode when fax/telephone auto-select is enabled.

Method
1. Press the start key.
2. Select [Rings(F/T) #].
3. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Rings(F/T) #</td><td>Number of fax/telephone rings</td><td>0 to 15</td><td>2 (120 V)/
1 (220-240 V)</td></tr>
</table>
* : If you set this to 0, the unit will start fax reception without any ringing.
4. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U605</td><td>
Clearing data

Description
Initializes data related to the fax transmission such as transmission history.
Purpose
To clear the transmission history.

Method
1. Press the start key.
2. Select [Comm REC].
3. Press the start key. Initialization processing starts.
When processing is finished, [Completed] is displayed.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U610</td><td>

Setting system 1

Description
Makes settings for fax reception regarding the sizes of the fax paper and received images and automatic printing of the protocol list.

Method
1. Press the start key.
2. Select the item to be set.

<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Cut Line:A4</td><td>Sets the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode.</td></tr>
<tr><td>Cut Line:100%</td><td>Sets the number of lines to be ignored when receiving a fax at 100% magnification.</td></tr>
<tr><td>Cut Line:Auto</td><td>Sets the number of lines to be ignored when receiving a fax in the auto reduction mode.</td></tr>
</table>

Setting the number of lines to be ignored when receiving a fax (A4R/LetterR) in the auto reduction mode
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode onto A4R or LetterR paper under the conditions below.
If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.
1. Change the setting using the cursor left/right keys or numeric keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Number of lines to be ignored when receiving a fax (A4R, letter) in the auto reduction mode</td><td>0 to 22</td><td>0</td><td>16 lines</td></tr>
</table>

* : Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.
2. Press the start key. The value is set.

Setting the number of lines to be ignored when receiving a fax at 100% magnification
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when recording the data at 100% magnification. If the number of excess lines is below the setting, those lines are ignored. If over the setting, they are recorded on the next page.
1. Change the setting using the cursor left/right keys or numeric keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Number of lines to be ignored when receiving at 100%</td><td>0 to 22</td><td>3</td><td>16 lines</td></tr>
</table>

* : Increase the setting if a blank second page is output, and decrease it if the received image does not include the entire transmitted data.
2. Press the start key. The value is set.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U610</td><td>
Setting the number of lines to be ignored when receiving a fax in the auto reduction mode
Sets the maximum number of lines to be ignored if the received data volume exceeds the recording capacity when the data is recorded in the auto reduction mode. If the number of excess lines is below the setting, those lines are ignored. If over the setting, the entire data on a page is further reduced so that it can be recorded on the same page.
1. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Number of lines to be ignored when receiving in the auto reduction mode</td><td>0 to 22</td><td>0</td><td>16 lines</td></tr>
</table>
* : Increase the setting if a page received in the reduction mode is over-reduced and too much trailing edge margin is left. Decrease it if the received image does not include all transmitted data.
2. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

Item No.	Description
U611	**Setting system 2** **Description** Sets the number of adjustment lines for automatic reduction. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
Adj Lines	Sets the number of adjustment lines for automatic reduction.
Adj Lines(A4)	Sets the number of adjustment lines for automatic reduction when A4 paper is set.
Adj Lines(LT)	Sets the number of adjustment lines for automatic reduction when letter size paper is set.

Setting the number of adjustment lines for automatic reduction
Sets the number of adjustment lines for automatic reduction.
1. Change the setting using the cursor left/right keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of adjustment lines for automatic reduction	0 to 22	7	16 lines

2. Press the start key. The value is set.

Setting the number of adjustment lines for automatic reduction when A4 paper is set
Sets the number of adjustment lines for automatic reduction when A4 paper is set.
1. Change the setting using the cursor left/right keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of adjustment lines for automatic reduction when A4 paper is set	0 to 22	22	16 lines

2. Press the start key. The value is set.

Setting the number of adjustment lines for automatic reduction when letter size paper is set
Sets the number of adjustment lines for automatic reduction when letter size paper is set.
1. Change the setting using the cursor left/right keys or numeric keys.

Description	Setting range	Initial setting	Change in value per step
Number of adjustment lines for automatic reduction when letter size paper is set	0 to 26	26	16 lines

2. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U612</td><td>

Setting system 3

Description
Makes settings for fax transmission regarding operation and automatic printing of the protocol list.

Method
1. Press the start key.
2. Select the item to be set using the cursor up/down keys.

Display	Description
Auto Reduct	Selects if auto reduction in the auxiliary direction is to be performed.
Protocol List	Sets the automatic printing of the protocol list.

Selecting if auto reduction in the auxiliary direction is to be performed
Sets whether to receive a long document by automatically reducing it in the auxiliary direction or at 100% magnification.
1. Select the setting using the cursor left/right keys.

Display	Description
On	Auto reduction is performed if the received document is longer than the fax paper.
Off	Auto reduction is not performed.

* : Initial setting: On
2. Press the start key. The setting is set.

Setting the automatic printing of the protocol list
Sets if the protocol list is automatically printed out.
1. Select the setting using the cursor left/right keys.

Display	Description
Err	The protocol list is automatically printed out after communication only if a communication error occurs.
On	The protocol list is automatically printed out after communication.
Off	The protocol list is not printed out automatically.

* : Initial setting: Off
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U615</td><td>
Setting system 6

Description
Makes settings for fax reception regarding the sizes of the fax paper and received images.
Purpose
To set the maximum recording width and processing method when 11" width fax paper is loaded on an inch specification machine.

Setting
1. Press the start key.
2. Select [RX Width For 11"].
3. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Ledger</td><td>Communicates to the destination unit 11" width as A3 width and records at 100% magnifications.</td></tr>
<tr><td>B4</td><td>Communicates to the destination unit 11" width as B4 width.</td></tr>
</table>
* : Initial setting: Ledger
4. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U620</td><td>
Setting the remote switching mode

Description
Sets the signal detection method for remote switching. Be sure to change the setting according to the type of telephone connected to the machine.

Setting
1. Press the start key.
2. Select [Remort Mode].
3. Select the mode.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>One</td><td>One-shot detection</td></tr>
<tr><td>Cont</td><td>Continuous detection</td></tr>
</table>
* : Initial setting: One
4. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U625</td><td>

Setting the transmission system 1

Description
Makes settings for the auto redialing interval and the number of times of auto redialing.
Purpose
Change the setting to prevent the following problems: fax transmission is not possible due to too short redial interval, or fax transmission takes too much time to complete due to too long redial interval.

Method
1. Press the start key.
2. Select the item to be set.

Display	Description
Interval	Setting the auto redialing interval
Times	Setting the number of times of auto redialing

Setting the auto redialing interval
1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting
Redialing interval	1 to 9 (min.)	3 (120 V)/2 (220-240 V)

2. Press the start key. The value is set.

Setting the number of times of auto redialing
1. Change the setting using the cursor left/right keys or numeric keys.

Description	Setting range	Initial setting
Number of redialing	0 to 15	2 (120 V)/3 (220-240 V)

2. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

Item No.	Description
U630	**Setting communication control 1** **Description** Makes settings for fax transmission regarding the communication. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
TX Speed	Sets the communication starting speed.
RX Speed	Sets the reception speed.
TX Echo	Sets the waiting period to prevent echo problems at the sender.
RX Echo	Sets the waiting period to prevent echo problems at the receiver.

Setting the communication starting speed
Sets the initial communication speed when starting transmission. When the destination unit has V.34 capability, V.34 is selected for transmission, regardless of this setting.

1. Select the setting.

Display	Description
14400bps/V17	V.17, 14400 bps
9600bps/V29	V.17, 9600 bps
4800bps/V27ter	V.27ter, 4800 bps
2400bps/V27ter	V.27ter, 2400 bps

* : Initial setting: 14400bps/V17

2. Press the start key. The setting is set.

Setting the reception speed
Sets the reception speed that the sender is informed of using the DIS or NSF signal. When the destination unit has V.34 capability, V.34 is selected, regardless of the setting.

1. Select the setting.

Display	Description
14400bps	V.17, V.33, V.29, V.27ter
9600bps	V.29, V.27ter
4800bps	V.27ter
2400bps	V.27ter (fallback only)

* : Initial setting: 14400bps

2. Press the start key. The setting is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U630</td><td>
Setting the waiting period to prevent echo problems at the sender
Sets the period before a DCS signal is sent after a DIS signal is received. Used when problems occur due to echoes at the sender.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>500</td><td>Sends a DCS 500 ms after receiving a DIS.</td></tr>
<tr><td>300</td><td>Sends a DCS 300 ms after receiving a DIS.</td></tr>
</table>
* : Initial setting: 300
2. Press the start key. The setting is set.

Setting the waiting period to prevent echo problems at the receiver
Sets the period before an NSF, CSI or DIS signal is sent after a CED signal is received. Used when problems occur due to echoes at the receiver.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>500</td><td>Sends an NSF, CSI or DIS 500 ms after receiving a CED.</td></tr>
<tr><td>75</td><td>Sends an NSF, CSI or DIS 75 ms after receiving a CED.</td></tr>
</table>
* : Initial setting: 75
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U631</td><td>

Setting communication control 2

Description
Makes settings regarding fax transmission.

Method
1. Press the start key.
2. Select the item to be set.

Display	Description
ECM TX	Sets ECM transmission.
ECM RX	Sets ECM reception.
CED Freq	Sets the frequency of the CED signal.

Setting ECM transmission
To be set to Off when reduction of transmission costs is of higher priority than image quality. This should not be set to Off when connecting to the IP (Internet Protocol) telephone line.
1. Select the setting.

Display	Description
On	ECM transmission is enabled.
Off	ECM transmission is disabled.

* : Initial setting: On
2. Press the start key. The setting is set.

Setting ECM reception
To be set to Off when reduction of transmission costs is of higher priority than image quality. This should not be set to Off when connecting to the IP (Internet Protocol) telephone line.
1. Select the setting.

Display	Description
On	ECM reception is enabled.
Off	ECM reception is disabled.

* : Initial setting: On
2. Press the start key. The setting is set.

Setting the frequency of the CED signal
Sets the frequency of the CED signal. Used as one of the measures to improve transmission performance for international communications.
1. Select the setting.

Display	Description
2100	2100 Hz
1100	1100 Hz

* : Initial setting: 2100
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U632</td><td>

Setting communication control 3

Description
Makes settings for fax transmission regarding the communication.

Method
1. Press the start key.
2. Select the item to be set.

Display	Description
DIS 4Byte	Sets the DIS signal to 4 bytes.
Num OF CNG(F/T)	Sets the CNG detection times in the fax/telephone auto select mode.

Setting the DIS signal to 4 bytes
Sets if bit 33 and later bits of the DIS/DTC signal are sent.
1. Select the setting.

Display	Description
On	Bit 33 and later bits of the DIS/DTC signal are not sent.
Off	Bit 33 and later bits of the DIS/DTC signal are sent.

* : Initial setting: Off
2. Press the start key. The setting is set.

Setting the CNG detection times in the fax/telephone auto select mode
Sets the CNG detection times in the fax/telephone auto select mode.
1. Select the setting.

Display	Description
1Time	Detects CNG once.
2Time	Detects CNG twice.

* : Initial setting: 2Time
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

Item No.	Description
U633	**Setting communication control 4** **Description** Makes settings for fax transmission regarding the communication. **Purpose** To reduce transmission errors when a low quality line is used. **Method** 1. Press the start key. 2. Select the item to be set.

Display	Description
V.34	Enables or disables V.34 communication.
V.34-3429Hz	Sets the V.34 symbol speed (3429 Hz).
DIS 2Res	Sets the number of times of DIS signal reception.
RTN Check	Sets the reference for RTN signal output.

Enabling/disabling V.34 communication

Sets whether V.34 communication is enabled/disabled for transmission and reception.

1. Select the setting.

Display	Description
On	V.34 communication is enabled for both transmission and reception.
TX	V.34 communication is enabled for transmission only.
RX	V.34 communication is enabled for reception only.
Off	V.34 communication is disabled for both transmission and reception.

* : Initial setting: On

2. Press the start key. The setting is set.

Setting the V.34 symbol speed (3429 Hz)

Sets if the V.34 symbol speed 3429 Hz is used.

1. Select the setting.

Display	Description
On	V.34 symbol speed 3429 Hz is used.
Off	V.34 symbol speed 3429 Hz is not used.

* : Initial setting: On

2. Press the start key. The setting is set.

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U633</td><td>
Setting the number of times of DIS signal reception
Sets the number of times to receive the DIS signal to once or twice. Used as one of the correction measures for transmission errors and other problems.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Once</td><td>Responds to the first signal.</td></tr>
<tr><td>Twice</td><td>Responds to the second signal.</td></tr>
</table>
* : Initial setting: Once
2. Press the start key. The setting is set.

Setting the reference for RTN signal output
Sets the error line rate as the reference for RTN signal output. If transmission errors occur frequently due to the quality of the line, they can be reduced by lowering this setting.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>5%</td><td>Error line rate of 5%</td></tr>
<tr><td>10%</td><td>Error line rate of 10%</td></tr>
<tr><td>15%</td><td>Error line rate of 15%</td></tr>
<tr><td>20%</td><td>Error line rate of 20%</td></tr>
</table>
* : Initial setting: 15%
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
<tr><td>U634</td><td>
Setting communication control 5

Description
Sets the maximum number of error bytes judged acceptable when receiving a TCF signal. Used as a measure to ease transmission conditions if transmission errors occur.

Setting
1. Press the start key.
2. Select [TCF Check].
3. Change the setting using the cursor left/right keys or numeric keys.
<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Number of allowed error bytes when detecting TCF</td><td>0 to 255</td><td>0</td></tr>
</table>
4. Press the start key. The value is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U640</td><td>

Setting communication time 1

Description

Sets the detection time when one-shot detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)
Sets the detection time when continuous detection is selected for remote switching. (This setting item will be displayed, but the setting made is ineffective.)

Method

1. Press the start key.
2. Select the item to be set.

<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Time (One)</td><td>Sets the one-shot detection time for remote switching.</td></tr>
<tr><td>Time (Cont)</td><td>Sets the continuous detection time for remote switching.</td></tr>
</table>

Setting the one-shot detection time for remote switching

1. Change the setting using the cursor left/right keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>One-shot detection time for remote switching</td><td>0 to 255</td><td>7</td></tr>
</table>

2. Press the start key. The value is set.

Setting the continuous detection time for remote switching

1. Change the setting using the cursor left/right keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Continuous detection time for remote switching</td><td>0 to 255</td><td>80</td></tr>
</table>

2. Press the start key. The value is set.

Completion

Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U641</td><td>

Setting communication time 2

Description
Sets the time-out time for fax transmission.
Purpose
To improve transmission performance for international communications mainly.

Method
1. Press the start key.
2. Select the item to be set.

Display	Description
T0 Time Out	Sets the T0 time-out time.
T1 Time Out	Sets the T1 time-out time.
T2 Time Out	Sets the T2 time-out time.
Ta Time Out	Sets the Ta time-out time.
Tb1 Time Out	Sets the Tb1 time-out time.
Tb2 Time Out	Sets the Tb2 time-out time.
Tc Time Out	Sets the Tc time-out time.
Td Time Out	Sets the Td time-out time.

Setting the T0 time-out time
Sets the time before detecting a CED or DIS signal after a dialing signal is sent.
Depending on the quality of the exchange, or when the auto select function is selected at the destination unit, a line can be disconnected. Change the setting to prevent this problem.
1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting
T0 time-out time	30 to 90 s	56

2. Press the start key. The value is set.

Setting the T1 time-out time
Sets the time before receiving the correct signal after call reception. No change is necessary for this maintenance item.
1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting
T1 time-out time	30 to 90 s	36

2. Press the start key. The value is set.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U641</td><td>

Setting the T2 time-out time

The T2 time-out time decides the following.
From CFR signal output to image data reception
From image data reception to the next signal reception
In ECM, from RNR signal detection to the next signal reception

1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting	Change in value per step
T2 time-out time	1 to 255	69	100 ms

2. Press the start key. The value is set.

Setting the Ta time-out time

In the fax/telephone auto select mode, sets the time to continue ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-1). A fax signal is received within the Ta set time, or the fax mode is selected automatically when the time elapses. In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting
Ta time-out time	1 to 255	30

2. Press the start key. The value is set.

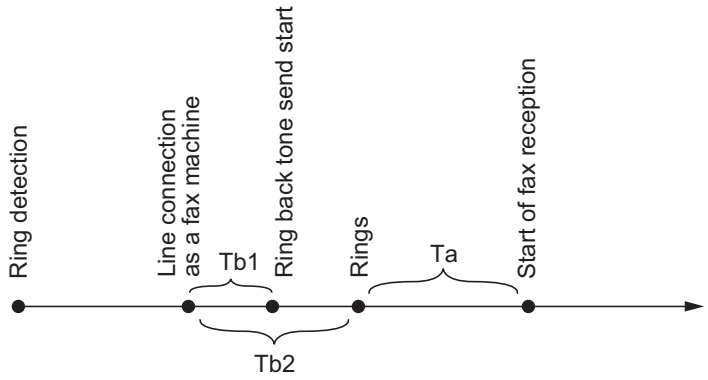


Figure 1-3-1 Ta/Tb1/Tb2 time-out time

Setting the Tb1 time-out time

In the fax/telephone auto select mode, sets the time to start sending the ring back tone after receiving a call as a fax machine (see figure 1-3-1). In fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the cursor left/right keys.

Description	Setting range	Initial setting	Change in value per step
Tb1 time-out time	1 to 255	20	100 ms

2. Press the start key. The value is set.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U641</td><td>

Setting the Tb2 time-out time

In the fax/telephone auto select mode, sets the time to start ringing an operator through the connected telephone after receiving a call as a fax machine (see figure 1-3-1). In the fax/telephone auto select mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the cursor left/right keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th><th>Change in value per step</th></tr>
<tr><td>Tb2 time-out time</td><td>1 to 255</td><td>80</td><td>100 ms</td></tr>
</table>

2. Press the start key. The value is set.

Setting the Tc time-out time

In the TAD mode, set the time to check if there are any triggers for shifting to fax reception after a connected telephone receives a call. Only the telephone function is available if shifting is not made within the set Tc time.

In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call.

1. Change the setting using the cursor left/right keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Tc time-out time</td><td>1 to 255</td><td>60</td></tr>
</table>

2. Press the start key. The value is set.

Setting the Td time-out time

Sets the length of the time required to determine silent status (fax), one of the triggers for Tc time check. In the TAD mode, change the setting when fax reception is unsuccessful or a telephone fails to receive a call. Be sure not to set it too short; otherwise, the mode may be shifted to fax while the unit is being used as a telephone.

1. Change the setting using the cursor left/right keys.

<table>
<tr><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Td time-out time</td><td>1 to 255</td><td>9 (120 V)/6 (220-240 V)</td></tr>
</table>

2. Press the start key. The value is set.

Completion

Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U650</td><td>

Setting modem 1

Description
Sets the G3 cable equalizer. Sets the modem detection level.
Purpose
Perform the following adjustment to make the equalizer compatible with the line characteristics. To improve the transmission performance when a low quality line is used.

Method
1. Press the start key.
2. Select the item to be set.

<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Reg G3 TX Eqr</td><td>Sets the G3 transmission cable equalizer.</td></tr>
<tr><td>Reg G3 RX Eqr</td><td>Sets the G3 reception cable equalizer.</td></tr>
<tr><td>RX Mdm Level</td><td>Sets the modem detection level.</td></tr>
</table>

Setting the G3 transmission cable equalizer
1. Select [0dB], [4dB], [8dB] or [12dB].
   * : Initial setting: 0dB
2. Press the start key. The setting is set.

Setting the G3 reception cable equalizer
1. Select [0dB], [4dB], [8dB] or [12dB].
   * : Initial setting: 0dB
2. Press the start key. The setting is set.

Setting the modem detection level
1. Select [-33dBm], [-38dBm], [-43dBm] or [-48dBm] using the cursor up/down keys.
   * : Initial setting: -43dBm
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U651</td><td>

Setting modem 2

Description
Sets the modem output level.
Sets the DTMF output level of a push-button dial telephone.
Purpose
Used if problems occur when sending a signal with a push-button dial telephone.

Setting
1. Press the start key.
2. Select the item to be set.
3. Change the setting using the cursor left/right keys or numeric keys.

<table>
<tr><th>Display</th><th>Description</th><th>Setting range</th><th>Initial setting</th></tr>
<tr><td>Sgl LV Mdm</td><td>Modem output level</td><td>1 to 15</td><td>9 (120 V)
10 (220-240 V)</td></tr>
<tr><td>DTMF LV(C)</td><td>DTMF output level
(main value)</td><td>0 to 15.0</td><td>5 (120 V)
10.5 (220-240 V)</td></tr>
<tr><td>DTMF LV(D)</td><td>DTMF output level
(level difference)</td><td>0 to 5.5</td><td>2 (120 V)
2.5 (220-240 V)</td></tr>
</table>

4. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U660</td><td>

Setting the NCU

Description
Makes setting regarding the network control unit (NCU).
Purpose
To be executed as required.

Method
1. Press the start key.
2. Select the item to be set.

Display	Description
Exchange	Sets the connection to PBX/PSTN.
Dial Tone	Sets PSTN dial tone detection.
Busy Tone	Sets busy tone detection.
PBX Setting	Setting for a PBX.
DC Loop	Sets the loop current detection before dialing.

Setting the connection to PBX/PSTN
Selects if a fax is to be connected to either a PBX or public switched telephone network.
1. Select the setting.

Display	Description
PSTN	Connected to the public switched telephone network.
PBX	Connected to a PBX.

* : Initial setting: PSTN
2. Press the start key. The setting is set.

Setting PSTN dial tone detection
Selects if the dial tone is detected to check the telephone is off the hook when a fax is connected to a public switched telephone network.
1. Select the setting.

Display	Description
On	Detects the dial tone.
Off	Does not detect the dial tone.

* : Initial setting: On
2. Press the start key. The setting is set.

</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U660</td><td>
Setting busy tone detection
When a fax signal is sent, sets whether the line is disconnected immediately after a busy tone is detected, or the busy tone is not detected and the line remains connected until T0 time-out time. Fax transmission may fail due to incorrect busy tone detection. When set to 2, this problem may be prevented. However, the line is not disconnected within the T0 time-out time even if the destination line is busy.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>On</td><td>Detects busy tone.</td></tr>
<tr><td>Off</td><td>Does not detect busy tone.</td></tr>
</table>
* : Initial setting: On
2. Press the start key. The setting is set.

Setting for a PBX
Selects the mode to connect an outside call when connected to a PBX.
According to the type of the PBX connected, select the mode to connect an outside call.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Flash</td><td>Flashing mode</td></tr>
<tr><td>Loop</td><td>Code number mode</td></tr>
</table>
* : Initial setting: Loop
2. Press the start key. The setting is set.

Setting the loop current detection before dialing
Sets if the loop current detection is performed before dialing.
1. Select the setting.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>On</td><td>Performs loop current detection before dialing.</td></tr>
<tr><td>Off</td><td>Does not perform loop current detection before dialing.</td></tr>
</table>
* : Initial setting: On
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U670</td><td>
Outputting lists

Description
Outputs a list of data regarding fax transmissions.
Printing a list is disabled either when a job is remaining in the buffer or when [Pause All Print Jobs] is pressed to halt printing.
Purpose
To check conditions of use, settings and transmission procedures of the fax.

Method
1. Press the start key.
2. Select the item to be output.
3. Press the start key. The selected list is output.
<table>
<tr><th>Display</th><th>Description</th></tr>
<tr><td>Sys Conf Report</td><td>Outputs a list of software switches, self telephone number, confidential boxes, ROM versions and other information.</td></tr>
<tr><td>Action List</td><td>Outputs a list of error history, transmission line details and other information.</td></tr>
<tr><td>Self Sts Report</td><td>Outputs a list of settings in maintenance mode (own-status report) regarding fax transmission only.</td></tr>
<tr><td>Protocol List</td><td>Outputs a list of transmission procedures.</td></tr>
<tr><td>Error List</td><td>Outputs a list of error.</td></tr>
<tr><td>Addr List(No.)</td><td>Outputs address book in order IDs were added</td></tr>
<tr><td>Addr List(Idx)</td><td>Outputs address book in order of names</td></tr>
<tr><td>One-touch List</td><td>Outputs a list of one-touch.</td></tr>
<tr><td>Group List</td><td>Outputs a list of group.</td></tr>
</table>
Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.
</td></tr>
</table>

<table>
<tr><th>Item No.</th><th>Description</th></tr>
<tr><td>U695</td><td>

FAX function customize

Description
Sets fax batch transmission ON/OFF. Also changes the print size priority at the time of small size reception.
Purpose
To be executed as required.

Setting
1. Select the setting.

Display	Description
FAX Bulk TX	fax batch transmission On/Off
A5 Pt Pri Chg	Change of print size priority at the time of small size reception

Setting: [FAX Bulk TX]
1. Select [On] or [Off] using the cursor left/right keys.

Display	Description
On	Fax batch transmission is enabled.
Off	Fax batch transmission is disabled.

* : Initial setting: On
2. Press the start key. The setting is set.

Setting: [A5 Pt Pri Chg]
1. Select [On] or [Off] using the cursor left/right keys.

Display	Description
On	At the time of A5 size reception: A5→B5→A4→B4→A3
Off	At the time of A5 size reception: A5→A4→B5→A3→B4

* : Initial setting: Off
2. Press the start key. The setting is set.

Completion
Press the stop key. The screen for selecting a maintenance item No. is displayed.

</td></tr>
</table>

Item No.	Description
U699	**Setting the software switches** **Description** Sets the software switches on the FAX control PWB individually. **Purpose** To change the setting when a problem such as split output of received originals occurs. Since the communication performance is largely affected, normally this setting need not be changed. **Method** 1. Press the start key. 2. Press [SW No.]. 3. Enter the desired software switch number (3 digits) using the numeric keys and press the enter key. 4. Use numeric keys 7 to 0 to switch each bit between 0 and 1. 5. Press the start key to set the value. **Completion** Press the stop key. The screen for selecting a maintenance item No. is displayed. **List of Software Switches of Which the Setting Can Be Changed** **<Communication control procedure>**

No.	Bit	Item
36	7654	Coding format in transmission
	3210	Coding format in reception
37	5	33600 bps/V34
	4	31200 bps/V34
	3	28800 bps/V34
	2	26400 bps/V34
	1	24000 bps/V34
	0	21600 bps/V34
38	7	19200 bps/V34
	6	16800 bps/V34
	5	14400 bps/V34
	4	12000 bps/V34
	3	9600 bps/V34
	2	7200 bps/V34
	1	4800 bps/V34
	0	2400 bps/V34
41	3	FSK detection in V.8
42	4	4800 bps when low-speed setting is active
	2	FIF length in transmission of more than 4 times of DIS/DTC signal

Item No.	Description
U699	**<Communication time setting>**

No.	Bit	Item
53	76543210	T3 timeout setting
54	76543210	T4 timeout setting (automatic equipment)
55	76543210	T5 timeout setting
60	76543210	Time before transmission of CNG (1100 Hz) signal
63	76543210	T0 timeout setting (manual equipment)
64	7	Phase C timeout in ECM reception
66	76543210	Timeout 1 in countermeasures against echo
68	76543210	Timeout for FSK detection start in V.8

<Modem setting>

No.	Bit	Item
89	76543	RX gain adjust

<NCU setting>

No.	Bit	Item
121	7654	Dial tone/busy tone detection pattern
122	7654	Busy tone detection pattern
	1	Busy tone detection in automatic FAX/TEL switching
125	76543210	Access code registration for connection to PSTN
126	7654	FAX/TEL automatic switching ring back tone ON/OFF cycle

<Calling time setting>

No.	Bit	Item
133	76543210	DTMF signal transmission time
134	76543210	DTMF signal pause time
141	76543210	Ringer detection cycle (minimum)
142	76543210	Ringer detection cycle (maximum)
143	76543210	Ringer ON time detection
144	76543210	Ringer OFF time detection
145	76543210	Ringer OFF non-detection time
147	76543210	Dial tone detection time (continuous tone)
148	76543210	Allowable dial tone interruption time
149	76543210	Time for transmitting selection signal after closing the DC circuit
151	76543210	Ringer frequency detection invalid time

1-4-1 Error codes

(1) Error code

Error codes are listed on the communication reports, activity report, etc. The codes consist of an error code indication U followed by a 5-digit number. (Error codes for V34 communication errors start with an E indication, followed by five digits.)
The upper three of the five digits indicate general classification of the error and its cause, while the lower two indicate the detailed classification. Items for which detailed classification is not necessary have 00 as the last two digits.

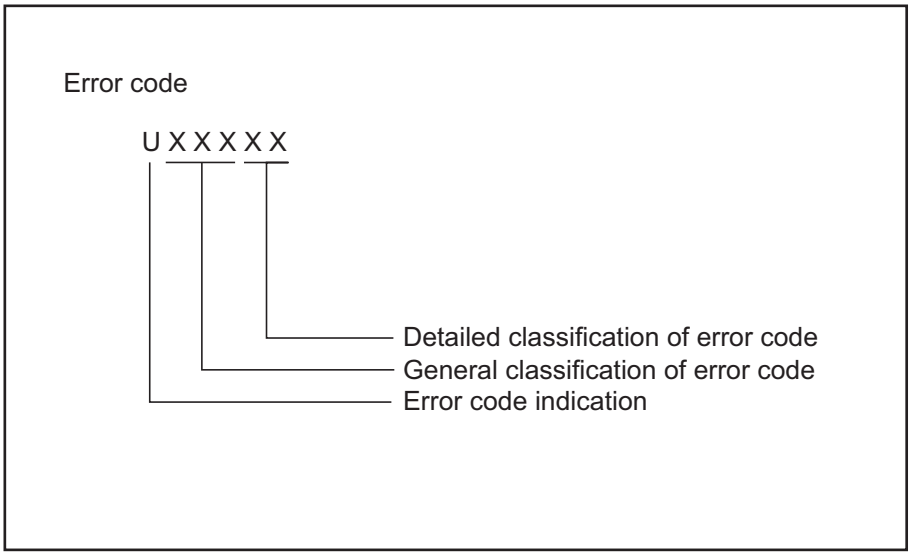


Figure 1-4-1

(2) Table of general classification

Error code	Description
U00000	No response or busy after the set number of redials.
U00100	Transmission was interrupted by a press of the stop/clear key.
U00200	Reception was interrupted by a press of the stop/clear key.
U00300	Recording paper on the destination unit has run out during transmission.
U004XX	A connection was made but interrupted during handshake with the receiver unit (refer to 1-4-4 U004XX error code table).
U006XX	Communication was interrupted because of a machine problem (refer to 1-4-4 U006XX error code table).
U00700	Communication was interrupted because of a problem in the destination unit.
U008XX	A page transmission error occurred in G3 mode (refer to 1-4-4 U008XX error code table).
U009XX	A page reception error occurred in G3 mode (refer to 1-4-4 U009XX error code table).
U010XX	Transmission in G3 mode was interrupted by a signal error (refer to 1-4-5 U010XX error code table).
U011XX	Reception in G3 mode was interrupted by a signal error (refer to 1-4-6 U011XX error code table).
U01400	An invalid one-touch key was specified during communication.
U01500	A communication error occurred when calling in V.8 mode.
U01600	A communication error occurred when called in V.8 mode.
U017XX	A communication error occurred before starting T.30 protocol during transmission in V.34 mode (refer to 1-4-7 U017XX error code table).
U018XX	A communication error occurred before starting T.30 protocol during reception in V.34 mode (refer to 1-4-7 U018XX error code table).
U03000	No document was present in the destination unit when polling reception started.
U03200	In interoffice subaddress-based bulletin board reception, data was not stored in the box specified by the destination unit.
U03300	In polling reception from a unit of our make, operation was interrupted due to a mismatch in permit ID or telephone number. Or, in interoffice subaddress-based bulletin board reception, operation was interrupted due to a mismatch in permit ID or telephone number.
U03400	Polling reception was interrupted because of a mismatch in individual numbers (destination unit is either of our make or by another manufacturer).
U03500	In interoffice subaddress-based bulletin board reception, the specified Subaddress confidential box number was not registered in the destination unit.
U03600	An interoffice subaddress-based bulletin board reception was interrupted because of a mismatch in the specified subaddress confidential box number.
U03700	Interoffice subaddress-based bulletin board reception failed because the destination unit had no subaddress-based bulletin board transmission capability, or data was not stored in any subaddress confidential box in the destination unit.
U04000	In interoffice subaddress-based transmission mode, the specified subaddress box number was not registered in the destination unit.

Error code	Description
U04100	Subaddress-based transmission failed because the destination unit had no subaddress-based reception capability.
U04200	In encrypted transmission, the specified encryption box was not registered in the destination unit.
U04300	Encrypted transmission failed because the destination unit had no encrypted communication capability.
U04400	Encrypted transmission was interrupted because encryption keys did not agree.
U04500	Encrypted reception was interrupted because of a mismatch in encryption keys.
U05100	Password check transmission or restricted transmission was interrupted because the permit ID's did not agree with.
U05200	Password check reception or restricted reception was interrupted because the permit ID's did not match, the rejected FAX number's did match, or the destination receiver did not return its phone number.
U05300	The password check reception or the restricted reception was interrupted because the permitted numbers did not match, the rejected numbers did match, or the machine in question did not acknowledge its phone number.
U14000	Memory overflowed during confidential reception. Or, in subaddress-based confidential reception, memory overflowed.
U14100	In interoffice subaddress-based transmission, memory overflowed in the destination unit.
U19000	Memory overflowed during memory reception.
U19100	Memory overflowed in the destination unit during transmission.
U19300	Transmission failed because an error occurred during JBIG encoding.

(2-1) U004XX error code table: Interrupted phase B

Error code	Description
U00430	Polling request was received but interrupted because of a mismatch in permit number. Or, subaddress-based bulletin board transmission request was received but interrupted because of a mismatch in permit ID in the transmitting unit.
U00431	An subaddress-based bulletin board transmission was interrupted because the specified subaddress confidential box was not registered.
U00432	An subaddress-based bulletin board transmission was interrupted because of a mismatch in Subaddress confidential box numbers.
U00433	Subaddress-based bulletin board transmission request was received but data was not present in the subaddress confidential box.
U00440	Subaddress-based confidential reception was interrupted because the specified subaddress box was not registered.
U00450	The destination transmitter disconnected because the permit ID's did not agree with while the destination transmitter is in password-check transmission or restricted transmission.
U00460	Encrypted reception was interrupted because the specified encryption box number was not registered.
U00462	Encrypted reception was interrupted because the encryption key for the specified encryption box was not registered.

(2-2) U006XX error code table: Problems with the unit

Error code	Description
U00601	Document jam or the document length exceeds the maximum.
U00613	Image writing section problem
U00656	Data was not transmitted to a modem error.
U00690	System error.

(2-3) U008XX error code table: Page transmission error

Error code	Description
U00800	A page transmission error occurred because of reception of a RTN or PIN signal.
U00811	A page transmission error reoccurred after retry of transmission in the ECM mode.

(2-4) U009XX error code table: Page reception error

Error code	Description
U00900	An RTN or PIN signal was transmitted because of a page reception error.
U00910	A page reception error remained after retry of transmission in the ECM mode.

(2-5) U010XX error code table: G3 transmission

Error code	Description
U01000	An FTT signal was received for a set number of times after TCF signal transmission at 2400 bps. Or, an RTN signal was received in response to a Q signal (excluding EOP) after transmission at 2400 bps.
U01001	Function of the unit differs from that indicated by a DIS signal.
U01016	An MCF signal was received but no DIS signal was received after transmission of an EOM signal, and T1 timeout was detected.
U01019	No relevant signal was received after transmission of a CNC signal, and the preset number of command retransfers was exceeded (between units of our make).
U01020	No relevant signal was received after transmission of a CTC signal, and the preset number of command retransfers was exceeded (ECM).
U01021	No relevant signal was received after transmission of an EOR.Q signal, and the preset number of command retransfers was exceeded (ECM).
U01022	No relevant signal was received after transmission of an RR signal, and the preset number of command retransfers was exceeded (ECM).
U01028	T5 time-out was detected during ECM transmission (ECM).
U01052	A DCN signal was received after transmission of an RR signal (ECM).
U01080	A PIP signal was received after transmission of a PPS.NULL signal.
U01092	During transmission in V.34 mode, communication was interrupted because of an impossible combination of the symbol speed and communication speed.
U01093	A DCN or other inappropriate signal was received during phase B of transmission.
U01094	The preset number of command retransfers for DCS/NSS signals was exceeded during phase B of transmission.
U01095	No relevant signal was received after transmission of a PPS (Q) signal during phase D of transmission, and the preset number of command transfers was exceeded.
U01096	A DCN signal or invalid command was received during phase D of transmission.
U01097	The preset number of command retransfers was exceeded after transmission of an RR signal or no response.

(2-6) U011XX error code table: G3 reception

Error code	Description
U01100	Function of the unit differs from that indicated by a DCS signal.
U01101	Function of the unit (excl. communication mode select) differs from that indicated by an NSS signal.
U01102	A DTC (NSC) signal was received when no transmission data was in the unit.
U01110	No response after transmission of a DIS signal.
U01111	No response after transmission of a DTC (NSC) signal.
U01113	No response after transmission of an FTT signal.
U01125	No response after transmission of a CNS signal (between units of our make).
U01129	No response after transmission of an SPA signal (short protocol).
U01141	A DCN signal was received after transmission of a DTC signal.
U01143	A DCN signal was received after transmission of an FTT signal.
U01155	A DCN signal was received after transmission of an SPA signal (short protocol).
U01160	During message reception, transmission time exceeded the maximum transmission time per line.
U01162	Reception was aborted due to a modem malfunction during message reception.
U01191	Communication was interrupted because an error occurred during an image data reception sequence in the V.34 mode.
U01193	There was no response, or a DCN signal or invalid command was received, during phase C/D of reception.
U01194	A DCN signal was received during phase B of reception.
U01195	No message was received during phase C of reception.
U01196	Error line control was exceeded and a decoding error occurred for the message being received.

(2-7) U017XX error code table: V.34 transmission

Error code	Description
U01700	A communication error occurred in phase 2 (line probing).
U01720	A communication error occurred in phase 4 (modem parameter exchange).
U01721	Operation was interrupted due to the absence of a common communication speed between units.

U01700: A communication error that occurs at the transmitting unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/A/Abar (B/Bbar, for polling transmission)/INFOh was not detected.

U01720: A communication error that occurs at the transmitting unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.

U01721: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange; 1) a DCN signal was received from the destination unit, and the line was cut; or 2) a DIS (NSF, CSI) signal was received from the destination unit and, in response to the signal, the unit transmitted a DCN signal, and the line was cut.

(2-8) U018XX error code table: V.34 reception

Error code	Description
U01800	A communication error occurred in phase 2 (line probing).
U01810	A communication error occurred in phase 3 (primary channel equivalent device training).
U01820	A communication error occurred in phase 4 (modem parameter exchange).
U01821	Operation was interrupted due to the absence of a common communication speed between units.

U01800: A communication error that occurs at the receiver unit in the period after transmission of INFO0 before entering phase 3 (primary channel equivalent device training). For example, INFO0/B/Bbar (A/Abar, for polling reception)/probing tone was not detected.

U01810: A communication error that occurs at the receiver unit in phase 3 (primary channel equivalent device training). For example, S/Sbar/PP/TRN was not detected.

U01820: A communication error that occurs at the receiver unit in the period after initiating the control channel before entering the T.30 process. For example, PPh/ALT/MPh/E was not detected.

U01821: In the absence of a common communication speed between units (including when an impossible combination of communication speed and symbol speed occurs) after MPh exchange, a DCN signal was transmitted to the destination unit and the line was cut.

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1-5-1 Self-diagnostic function

(1) Self-diagnostic function

This machine is equipped with self-diagnostic function. When a problem is detected, the machine stops printing and display an error message on the operation panel. An error message consists of a message prompting a contact to service personnel and a four-digit error code indicating the type of the error.

(2) Self diagnostic codes

If the part causing the problem was not supplied, use the unit including the part for replacement.

Code	Contents	Causes	Check procedures/ corrective measures
0030	**FAX control PWB system error** Processing with the fax software was disabled due to a hardware problem.	Defective FAX control PWB.	Replace the fax control PWB and check for correct operation.
0070	**FAX control PWB incompatible detection error** Abnormal detection of FAX control PWB incompatibility In the initial communication with the FAX control PWB, any normal communication command is not transmitted.	Defective FAX software.	Install the fax software.
		Defective FAX control PWB.	Replace the fax control PWB and check for correct operation.
0830	**FAX control PWB flash program area checksum error** A checksum error occurred with the program of the FAX control PWB.	Defective FAX software.	Install the fax software.
		Defective FAX control PWB.	Replace the fax control PWB and check for correct operation.
0870	**FAX control PWB to main PWB high capacity data transfer error** High-capacity data transfer between the FAX control PWB and the main PWB of the machine was not normally performed even if the data transfer was retried the specified times.	Improper installation FAX control PWB.	Replace the fax control PWB and check for correct operation.
		Defective FAX control PWB or main PWB.	Replace the FAX control PWB or main PWB and check for correct operation.
0920	**Fax file system error** The backup data is not retained for file system abnormality of flash memory of the FAX control PWB.	Defective FAX control PWB.	Replace the fax control PWB and check for correct operation.

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1-6-1 Upgrading the firmware on the fax control PWB

Follow the procedure below to upgrade the firmware of fax control PWB.

Preparation
Extract the file that has the download firmware and put them in the USB Memory.

Procedure

1. Perform maintenance item U000 (maintenance report output) and check U019 ROM version.
2. Press the power key on the operation panel, and after verifying the power indicator has gone off, switch off the main power switch. And then unplug the power cable from the wall outlet.
3. Insert the USB memory in which the firmware has been written into a notch hole of the machine.
4. Insert the power plug and turn the main power switch on. Upgrading firmware starts (blinking the memory LED).
   Caution:
   Never turn the main power switch off during upgrading.
5. [Completed] is displayed on the touch panel when upgrading is complete.

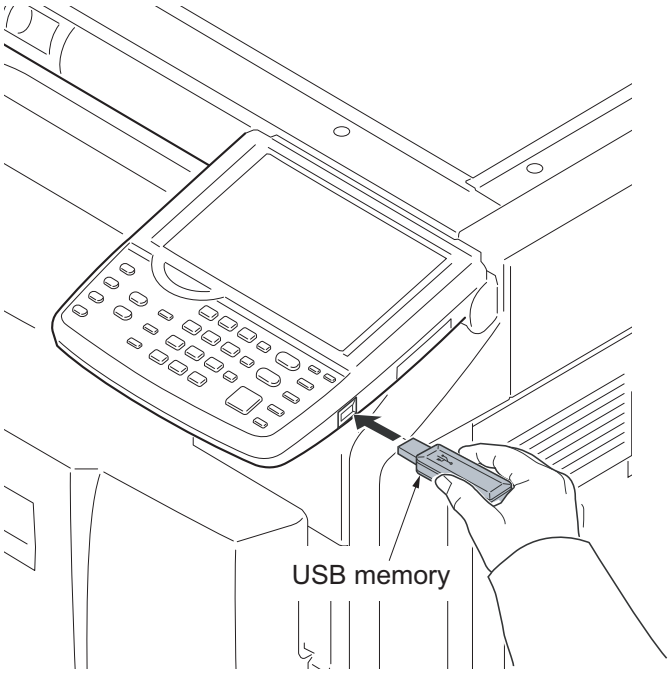

Figure 1-6-1

6. Press the power key on the operation panel, and after verifying the power indicator has gone off, switch off the main power switch. And then unplug the power cable from the wall outlet.
7. Wait for several seconds and then remove the USB memory from the machine.
8. Insert the power plug and turn the main power switch on.
9. Perform maintenance item U000 (maintenance report output) and check that U019 ROM version has been upgraded.

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2-1-1 Electrical parts layout

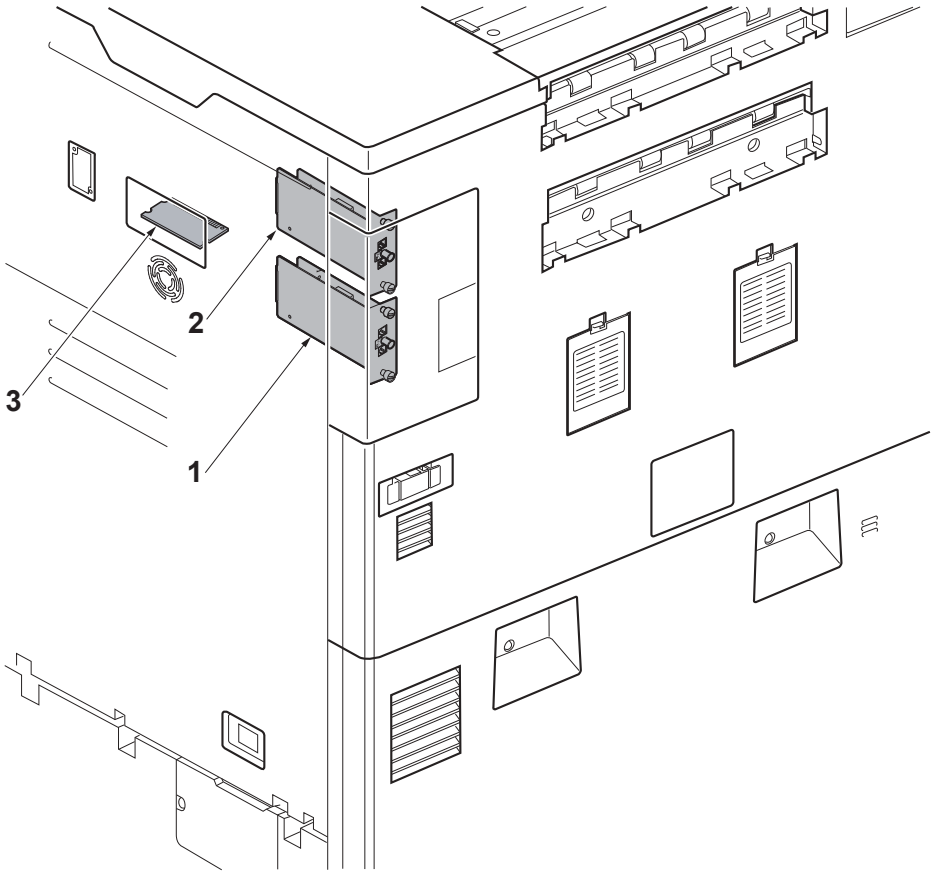

Figure 2-1-1

1. Fax control PWB (FCPWB)..... Modulates, demodulates, compresses and decompresses.
2. Dual FAX (option)..... Expands telephone lines.
3. Memory DIMM ..... Stores the internet FAX reception data, FAX box data and job accounting data for backup.

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2-2-1 Fax control PWB

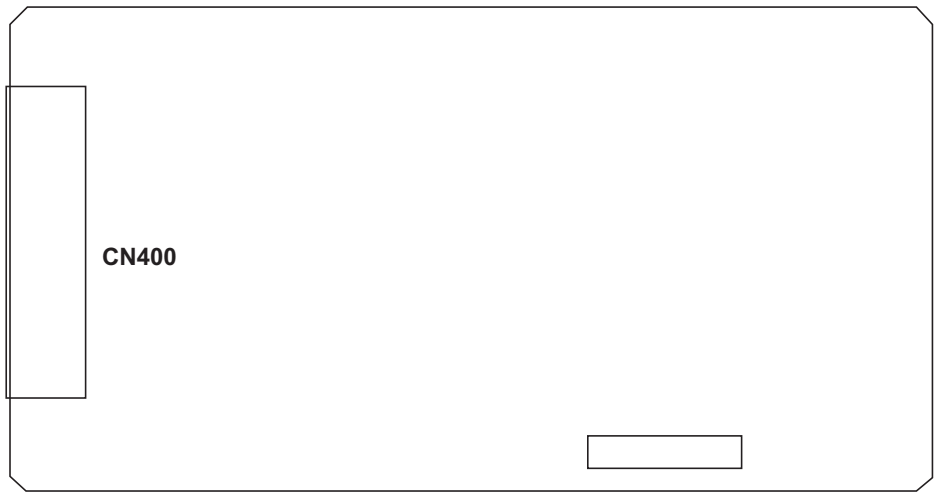

Figure 2-2-1 Fax control PWB silk-screen diagram

Connector	Pin	Signal	I/O	Voltage	Description
CN400	1	VDD5	I	5 V DC	5 V DC power input from MPWB
Connected to main PWB	2	GND	-	-	Ground
	3	RESETN	I	0/3.3 V DC	Reset signal
	4	VDD5_CUT	I	5 V DC	Control voltage
	5	GND	-	-	Ground
	6	WAKEUP	O	0/3.3 V DC	Wake up signal
	7	AUDIO	O	Analog	Audio signal
	8	NC	-	-	Not used
	9	MODE	I	0/5 V DC	Mode signal
	10	S_RESET	I	0/5 V DC	Reset signal
	11	GND	-	-	Ground
	12	NC	-	-	Not used
	13	NC	-	-	Not used
	14	GND	-	-	Ground
	15	NC	-	-	Not used
	16	NC	-	-	Not used
	17	GND	-	-	Ground
	18	USB_DP	I/O		USB D+
	19	USB_DN	I/O		USB D-
	20	VBUS	I	5 V DC	5 V DC power input from MPWB

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